



Operating Instructions & Parts Manual  
**10-Inch x 16-Inch Horizontal  
Cut-Off Band Saw**

Models 7020/7040

Part No. 9078341

Revision C4 07/03



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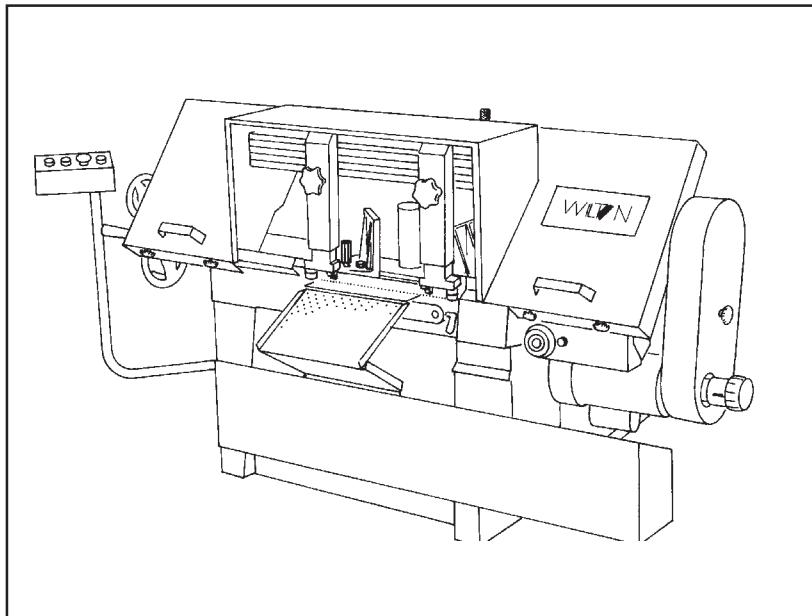
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# General Specifications



The Wilton Models 7020/7040 Horizontal Cut-Off Bandsaws are ruggedly built, precision machines designed for either wet or dry applications. The 2 HP motor along with the worm gear reduction drive train in

an oil bath, transmits smooth and positive power to the blade. This drive system coupled with the recirculating coolant system keeps the blade running cool and true, which results in longer blade life.

## Specifications

Capacity	10" Round 10" x 10" Square 9" x 16" Rectangle
Speeds	100 to 350 feet per minute - variable speed
Motor	Model 7020 - 1.5 H.P., 1 phase, 110/220V Model 7040 - 2 H.P., 3 phase, 220/440V
Blade Size	1" x .035" x 135"
Blade Guides	Adjustable 6 point contact combination bearing and carbide
Blade Wheels	14" diameter, cast iron
Dimensions	Length: 79" / Width: 31" / Height: 41"
Shipping Weight	Approximately 725 pounds
Vise	Rapid acting, 3 jaw design
Coolant System	Recirculating system standard with each machine complete with 1 GPM pump, 8 gallon reservoir, and coolant applied through the blade guides.



# WARNING

- Misuse of this machine can cause serious injury.
- For safety, machine must be set up, used and serviced properly.
- Read, understand and follow instructions in the Operating Instructions and Parts Manual which was shipped with your machine.

#### **When Setting up Machine:**

- Always avoid using machine in damp or poorly lighted work areas.
- Always be sure the machine support is securely anchored to the floor or the work bench.

#### **When Using Machine:**

- Always wear safety glasses with side shields (See ANSI Z87.1)
- Never wear loose clothing or jewelry.
- Never overreach - you may slip and fall.

#### **When Servicing Machine:**

- Always disconnect the machine from its electrical supply while servicing.

- Always follow instructions in Operating Instructions and Parts Manual when changing accessory tools or parts.

- Never modify the machine without consulting Wilton Corporation.

#### **You - the Stationary Power Tool User - Hold the Key to Safety.**

Read and follow these simple rules for best results and full benefits from your machine. Used properly, Wilton's machinery is among the best in design and safety. However, any machine used improperly can be rendered inefficient and unsafe. It is absolutely mandatory that those who use our products be properly trained in how to use them correctly. They should read and understand the Operating Instructions and Parts Manual as well as all labels affixed to the machine. Failure in following all of these warnings can cause serious injuries.

## Machinery General Safety Warnings

1. Always wear protective eye wear when operating machinery. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection.
2. Wear proper apparel. No loose clothing or jewelry which can get caught in moving parts. Rubber soled footwear is recommended for best footing.
3. Do not overreach. Failure to maintain proper working position can cause you to fall into the machine or cause your clothing to get caught pulling you into the machine.
4. Keep guards in place and in proper working order. Do not operate the machine with guards removed.
5. Avoid dangerous working environments. Do not use stationary machine tools in wet or damp locations. Keep work areas clean and well lit.
6. Avoid accidental starts by being sure the start switch is OFF before plugging in the machine.
7. Never leave the machine running while unattended. Machine shall be shut off whenever it is not in operation.
8. Disconnect electrical power before servicing. Whenever changing accessories or general maintenance is done on the machine, electrical power to the machine must be disconnected before work is done.
9. Maintain all machine tools with care. Follow all maintenance instructions for lubricating and the changing of accessories. No attempt shall be made to modify or have makeshift repairs done to the machine. This not only voids the warranty but also renders the machine unsafe.
10. Machinery must be anchored to the floor.
11. Secure work. Use clamps or a vise to hold work, when practical. It is safer than using your hands and it frees both hands to operate the machine.
12. Never brush away chips while the machine is in operation.
13. Keep work area clean. Cluttered areas invite accidents.
14. Remove adjusting keys and wrenches before turning machine on.
15. Use the right tool. Don't force a tool or attachment to do a job it was not designed for.
16. Use only recommended accessories and follow manufacturers instructions pertaining to them.
17. Keep hands in sight and clear of all moving parts and cutting surfaces.
18. All visitors should be kept at a safe distance from the work area. Make workshop completely safe by using padlocks, master switches, or by removing starter keys.

19. Know the tool you are using — its application, limitations, and potential hazards.

## General Electrical Cautions

This saw should be grounded in accordance with the National Electrical Code and local codes and ordinances. This work should be done by a qualified electrician. The saw should be grounded to protect the user from electrical shock.

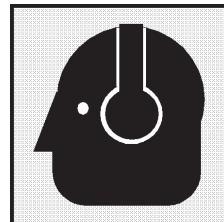
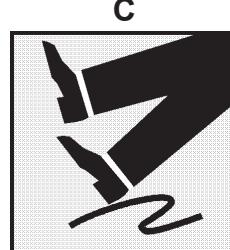
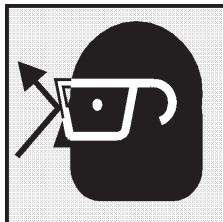
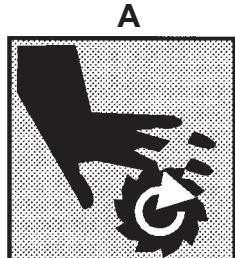
### Wire Sizes

**Caution:** For circuits which are far away from the electrical service box, the wire size must be increased in order to deliver ample voltage to the motor. To minimize power losses and to prevent motor overheating and burnout, the use of wire sizes for branch circuits or electrical extension cords according to the following table is recommended.

Conductor Length	AWG (American Wire Gauge) Number	
	240 Volt Lines	120 Volt Lines
0 - 50 Feet	No. 14	No. 14
50 - 100 Feet	No. 14	No. 12
Over 100 Feet	No. 12	No. 8

## Safety Instructions on Sawing Systems

1. Always wear leather gloves when handling saw blade. The operator shall not wear gloves when operating the machine.
2. All doors shall be closed, all panels replaced, and other safety guards in place prior to the machine being started or operated.
3. Be sure that the blade is not in contact with the workpiece when the motor is started. The motor shall be started and you should allow the saw to come up to full speed before bringing the saw blade into contact with the workpiece.
4. Keep hands away from the blade area. **See Figure A.**
5. Remove any cut off piece carefully while keeping your hands free of the blade area.
6. Saw must be stopped and electrical supply must be cut off before any blade replacement or adjustment of blade support mechanism is done, or before any attempt is made to change the drive belts or before any periodic service or maintenance is performed on the saw.
7. Remove all loose items and unnecessary workpieces from the area before starting machine.
8. Bring adjustable saw guides and guards as close as possible to the workpiece.
9. Always wear protective eye wear when operating, servicing, or adjusting machinery. Eyewear shall be impact resistant, protective safety glasses with side shields complying with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection. **See Figure B.**
10. Nonslip footwear and safety shoes are recommended. **See Figure C.**
11. Wear ear protectors (plugs or muffs) during extended periods of operation. **See Figure D.**
12. The workpiece, or part being sawed, must be securely clamped before the saw blade enters the workpiece.
13. Remove cut off pieces carefully, keeping hands away from saw blade.
14. Saw must be stopped and electrical supply disconnected before reaching into cutting area.
15. Avoid contact with coolant, especially guarding your eyes.



# Introduction

This manual includes the operating and maintenance instructions for the Wilton 10-inch by 16-inch Cut Off Band Saw, Models 7020/7040. This manual also includes parts listings and illustrations of replaceable parts.

## Operating Instructions Controls

The operating controls for the saw are provided in a control panel on the left side of the machine. The control panel is mounted on a pivoting tube. The pivoting tube allows the operator to position the control panel in a convenient location.

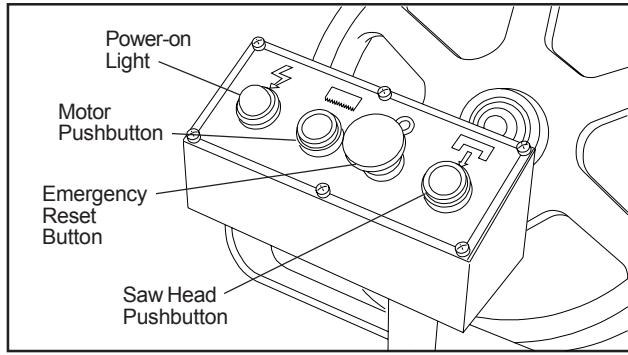


Figure 1: Control panel

1. A power-on light is provided on the left side of the control panel. The power-on light indicates when power is connected to the machine.
2. An emergency stop button is provided on the control panel. The emergency stop button provides a means to rapidly cut off electrical power.
3. The saw motor pushbutton switch starts the saw motor and the E-stop button stops the saw motor.
4. A green pushbutton switch is provided to the right of the emergency stop pushbutton. The pushbutton opens an electro-magnetic valve in the hydraulic cylinder circuit. Opening the valves allows the saw head to move downward and put the saw blade in contact with the workpiece.
5. A red release button on the electro-magnetic valve provides a means to lower the saw head when power to the machine has been disconnected (see figure 4).
6. The rate at which the saw head moves downward is controlled by a hydraulic feed rate control located on the top, rear of the saw head (see figure 3).
7. A coolant pump switch is provided on the electrical equipment box on the back of the machine

## Setting Blade Speed

1. The blade speed is controlled by an adjustment mechanism on the right end of the saw. Speed increases when the adjustment knob is turned counterclockwise. Speed decreases when the knob is turned clockwise.
2. A placard on the drive belt guard provides recommended speeds for various materials.
3. A speed indicator is provided on the barrel of the adjustment mechanism. The indicator provides speed indications in feet per minute and meters per minute. (The meters per minute values are shown in parenthesis on the indicator.)
4. The feed rates on the placard are expressed in meters per minute. The feed rate graduations available on the indicator may not match the recommended feed rate. An approximate speed may therefore be required. For example, to set a speed rate of 25 meters per minute, the indicator would be set about midway between 21 meters-per-minute and the 30 meters-per-minute graduations.

**WARNING: TO CHANGE SPEED, THE SAW MOTOR MUST BE OPERATING.**

5. Turn the speed adjustment knob to the desired rate setting as determined by the material being cut.

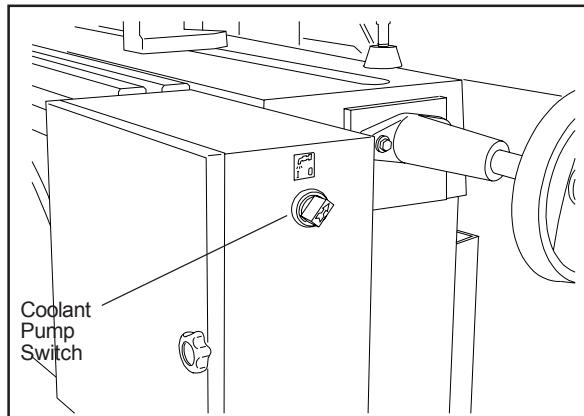


Figure 2: Coolant pump switch

# Raising/Lowering the Saw Head

1. Lift the saw head using the handle on the far left side of the saw head.
2. To lower the saw head, press the green pushbutton on the right side of the control panel.
3. To adjust the feed rate, adjust the feed rate control valve knob on the top of the saw head (see figure 3).
4. To lower the saw head with power off, pull and turn the red knob (manual override) on the electro-magnetic valve (see figure 4).

## Controlling the Cut: Hydraulic Feed Control

The weight of the saw arm provides all the force needed to move the saw blade through the workpiece. In fact, if the full weight of the arm is allowed to make the cut, rapid blade wear and poor cutting accuracy will result. A hydraulic feed control is provided that gives the operator a means to control the speed and efficiency of cutting.

The hydraulic cylinder is attached between the saw base and the saw head. The hydraulic cylinder resists movement of the saw head in the downward direction. However, the hydraulic cylinder offers no resistance when the saw head is raised upward.

The amount of downward force can be controlled by using the feed rate control valve. When the valve is opened slightly, the saw head will move downward. The further the valve is opened, the faster the saw head will move downward.

The feed control is adjusted by the operator until the saw is operating efficiently. This is usually determined by observing the chip formation. (See Evaluating Blade Efficiency for more information on cutting efficiency.)

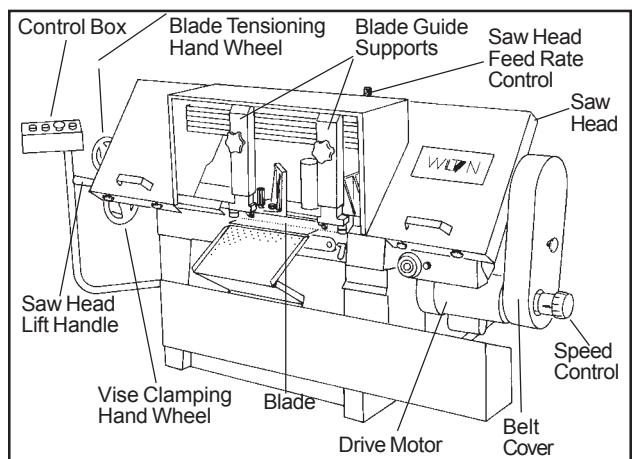


Figure 3: Controls

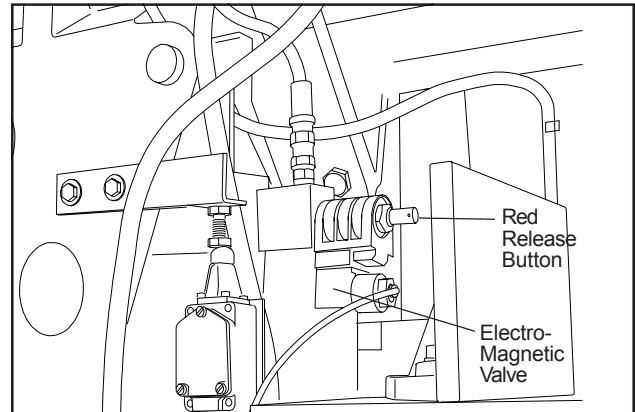


Figure 4: Lowering head with power off

## Evaluating Cutting Efficiency

Is the blade cutting efficiently? The best way to determine this is to observe the chips formed by the cutting blade.

If the chip formation is powdery, then the feed rate is much too light, or the blade is dull.

If the chips formed are curled, but colored — that is, either blue or straw-colored from heat generated during the cut — then the feed rate is too high.

If the chips are slightly curled and are not colored by heat — the blade is sufficiently sharp and is cutting at its most efficient rate.

## Blade Selection

The cut-off saw is provided with a saw blade that is adequate for a variety of cut-off jobs on a variety of common materials. A 4/6 vari tooth bi-metal blade (5674011) and a 6/10 vari tooth bi-metal blade (5674021) are available from Wilton.

See **Setting Blade Speed** for the speeds recommended for various materials. These selections, while appropriate for many shop cutting needs, do not encompass the wide variety of blades of special configuration (tooth pitch and set) and special alloys for cutting unusual or exotic materials.

A coarse blade could be used for a solid steel bar but a finer tooth blade would be used on a thin-wall tube. In general, the blade choice is determined by the thickness of the material; the thinner the material, the finer the tooth pitch.

A minimum of three teeth should be on the work piece at all times for proper cutting. The blade and workpiece can be damaged if the teeth are so far apart that they straddle the workpiece.

For very high production on cutting of special materials, or to cut hard-to-cut materials such as stainless steel, tool steel, or titanium, you can ask your industrial distributor for more specific blade recommendations. Also, the supplier who provides the workpiece material should be prepared to provide you with very specific instructions regarding the best blade (and coolant or cutting fluid, if needed) for the material and shape supplied.

## Blade Break-in Procedures

New blades are very sharp and, therefore, have a tooth geometry which is easily damaged if a careful break-in procedure is not followed. Consult the blade manufacturer's literature for break-in of specific blades on specific materials. However, the following procedure will be adequate for break-in of Wilton-supplied blades on lower alloy ferrous materials.

1. Clamp a round section workpiece in the vise. The workpiece should be 2 inches or larger in diameter.
2. Set the saw on low speed. Start the cut with a very light feed rate.
3. When the saw has completed 1/3 of the cut, increase the feed rate slightly and allow the saw to complete the cut.
4. Keep the same hydraulic cylinder setting and begin a second cut on the same or similar workpiece.
5. When the blade has completed about 1/3 of the cut, increase the feed rate. Watch the chip formation until cutting is at its most efficient rate and allow the saw to complete the cut (see Evaluating Blade Efficiency). The blade is now considered ready for regular service.

## Work Setup

### Securing the Workpiece for Square Cuts

1. Raise the saw head (refer to Figure 5).
2. Slide the left vise jaw far enough to the left to allow the workpiece to be placed in the vise.
3. Place the workpiece on the work table. If the workpiece is long, provide support at the other end. It may also be necessary to provide additional downward clamping to hold the workpiece securely on the work table.
4. Turn clamping hand wheel clockwise to clamp the workpiece in position against the fixed (right) vise jaw.
5. After completing the cut, turn the clamping hand wheel counterclockwise and slide the left jaw away from the workpiece.

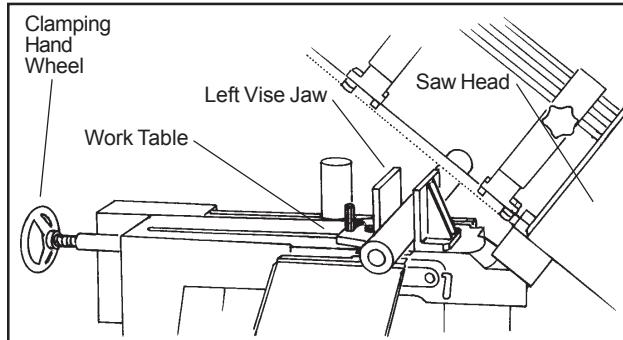


Figure 5: Securing workpiece

## Adjusting the Vise for Angle Cuts

1. Referring to Figure 5, loosen the angle locking screw and the pivot screw on the left vise jaw.
2. Turn the locking handle on the round, angle-setting block counterclockwise to unlock the block. Slide the block until the pointer on the block is aligned with desired angle (see figure 7). Tighten the locking handle to set the angle.
3. Set the workpiece in the vise. Put the front end of the workpiece against the corner of the right vise jaw. Put the rear end of the workpiece against the angle-setting block.
4. Turn clamping hand wheel clockwise until the left vise jaw is parallel with the workpiece. Tighten the pivot screw and angle locking screw on the left vise jaw. Clamp the workpiece in position.
5. After completing the cut, turn the clamping hand wheel counterclockwise and slide the left jaw away from the workpiece.

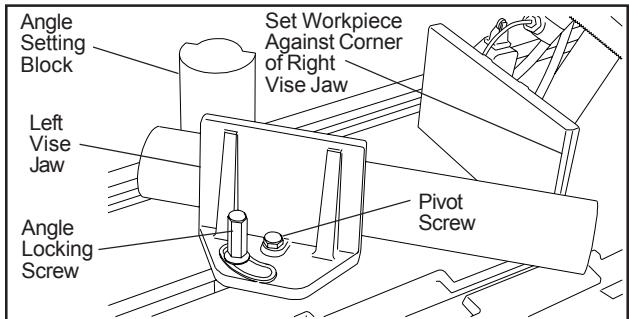


Figure 6: Adjusting vise

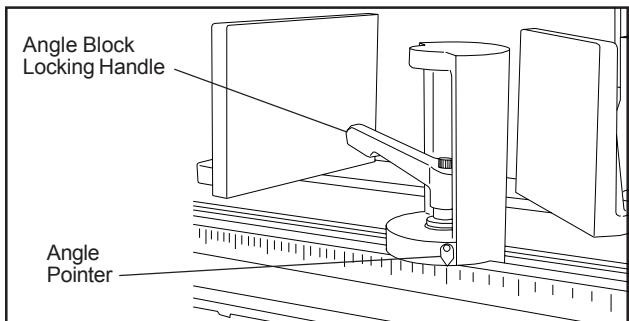


Figure 7: Angle setting block

## Installation and Adjustment of Work Stop

Figure 5: Securing workpiecThe work stop is used to set up the saw for making multiple cuts of the same length (see figure 8). Install and adjust the work stop as follows:

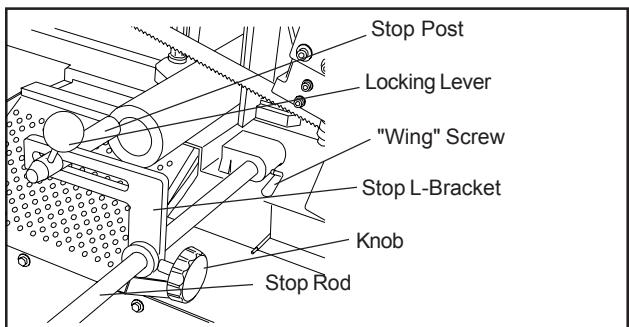


Figure 8: Work stop

1. Insert the end of the stop rod in the hole in the front right side of the work table.
2. Tighten the "wing" screw to secure the rod in place.
3. Install the stop post in the channel on the back of the stop L-bracket. Install the locking lever in the threaded hole in the stop post. Snug-up the locking lever.
4. Install the locking knob in the hole in the side of the stop L-bracket.
5. Slide the assembled stop L-bracket onto the stop rod. Position the stop post against the work piece and tighten the knob in the stop L-bracket. The stop post can be moved left or right as required to

place it against the work piece.

## Starting the Saw

**WARNING:** NEVER OPERATE THE SAW WITHOUT BLADE COVERS IN PLACE AND SECURED.

**CAUTION:** MAKE SURE THE BLADE IS NOT IN CONTACT WITH THE WORKPIECE WHEN THE MOTOR IS STARTED. DO NOT DROP THE SAW HEAD ON THE WORKPIECE OR FORCE THE SAW BLADE THROUGH THE WORKPIECE.

1. Raise the saw head. With the saw motor off, pull the red release button on the electro-magnetic valve and check the rate at which the saw head lowers.
2. Raise the saw head. Push in red release button.
3. Clamp the workpiece in the vise. (See figure 9 for examples of workpieces in the vise.)
4. Be sure the blade is not in contact with the workpiece when the motor is started.
5. Start the motor and allow the saw to come up to speed.
6. Slowly set the saw down onto the workpiece. Adjust cutting speed with feed rate control valve.
7. DO NOT DROP THE SAW HEAD OR FORCE THE CUT. Let the weight of the saw head provide the cutting force.
8. The saw will automatically shut off at the end of the cut.

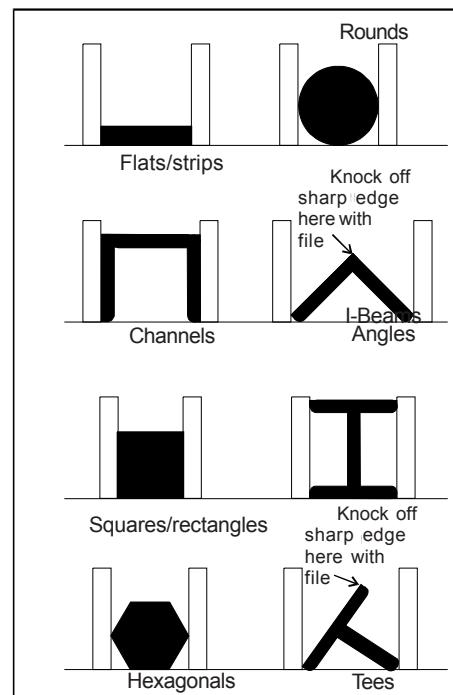


Figure 9: Placing workpieces in the vise

## Coolant Flow

**CAUTION:** THE COOLANT PUMP MUST BE SUBMERGED BEFORE OPERATING TO PREVENT DAMAGE TO THE PUMP.

1. The blade guides are fitted with coolant fittings. Coolant is provided to the fittings through interconnecting tubing. The coolant is dispensed directly onto the saw blade.
2. Adjust the coolant flow valves on the top, rear of the saw head as required to provide the desired flow. The flow should be no more than the blade can draw into the workpiece by blade movement.
3. The coolant flow can be stopped in two ways:
  - 1) By using the coolant pump switch on the electrical equipment box, or
  - 2) By closing the coolant flow valves on the top, rear of the saw head.

## Coolant Mixture and Quantity

The general purpose coolant is a mixture of water soluble oil and water. Mix one part of soluble oil (TRIM SOL) to ten parts of water (one quart oil, ten quarts of water). Eleven quarts of coolant are required for the coolant pump to operate properly.

There are numerous coolants on the market that are formulated for special applications. Consult your local distributor for details in the event you have a long range production task, or are required to cut some of the more exotic materials.

## Adjustments

The efficient operation of the cut-off saw is dependent upon the condition of the saw blade. If the performance of the saw begins to deteriorate, the first item that you should check is the blade.

If a new blade does not restore the machine's cutting accuracy and quality, refer to the Troubleshooting section (or the blade manufacturer's guide) for conditions to consider and adjustments that can be made to increase the life of the blade.

To change the blade, refer to **Changing Blades** in the Maintenance section. To adjust the blade tracking, refer to the following procedures.

## Blade Tracking Adjustment

Blade tracking has been tested at the factory. Adjustment is rarely required when the blade is used properly or if the blade is correctly welded. (See figure 10 for location of blade tracking adjustment screws.)

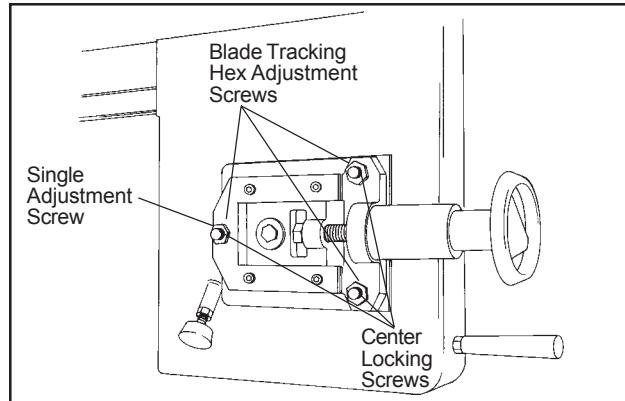


Figure 10: Blade tracking and tensioning

## Factory or Field Procedure

1. Raise the saw head enough to allow the saw motor to operate.
2. Loosen four knobs securing the blade cover. Lift the cover and swing it backward.
3. Remove the blade guard mounted on the left blade guide support.
4. Remove both blade guide bearing brackets.

**NOTE:** Maintain proper tension at all times using the blade tensioning mechanism.

5. Loosen the center locking screws in all three hex adjustment screws on the blade tensioning mechanism (see figure 10).

**CAUTION:** WHILE PERFORMING THE FOLLOWING, KEEP THE BLADE FROM RUBBING EXCESSIVELY ON THE SHOULDER OF THE WHEEL. EXCESSIVE RUBBING WILL DAMAGE THE WHEEL AND/OR THE BLADE.

6. Start the saw. Slowly turn the single hex adjustment screw at the rear of the tracking mechanism to tilt the idler wheel. Do not turn either of the other two adjustment screws. Turn the adjustment screw until the blade is touching the shoulder of the idler wheel.

**NOTE:** Turning the screw inward causes the blade to move toward the shoulder of the wheel. Turning the screw outward causes the blade to move away from the shoulder.

7. Turn the single hex adjustment screw so the blade starts to move away from the shoulder of the wheel — then turn the single hex adjustment screw in the other direction so the blade stops, then moves slowly toward the shoulder.

**WARNING:** KEEP FINGERS CLEAR OF THE BLADE AND WHEEL TO AVOID INJURY.

8. Turn the single hex adjustment screw to stop the motion of the blade on the wheel as it gets closer to

the wheel shoulder. Put a 6-inch length of paper between the blade and the wheel as shown in figure 11. The paper should not be cut as it passes between the wheel shoulder and the blade.

- Turn the single hex adjustment screw a small amount. Repeat the insertion of the paper between the wheel shoulder and the blade until the paper is cut in two pieces.

**NOTE:** You may have to repeat the check with the paper several times before the blade and the shoulder cuts the paper into two pieces. Do not hurry the adjustment. Patience and accuracy here will pay off with better, more accurate, quieter cutting and much longer machine and blade life.

- When the paper is cut, turn the hex adjustment screw slightly in the counterclockwise direction. This assures that the blade is not touching the shoulder of the wheel.
- Shut off the saw.
- Hold the hex adjustment screws with a wrench and tighten the center locking screws. Make sure the hex adjustment screws do not move while tightening the center screws.
- Install the two blade guide bearing brackets. Position the guides so the bearings just touch the blade.
- Install the left blade guard.
- Close the saw head cover. Tighten all four knobs.

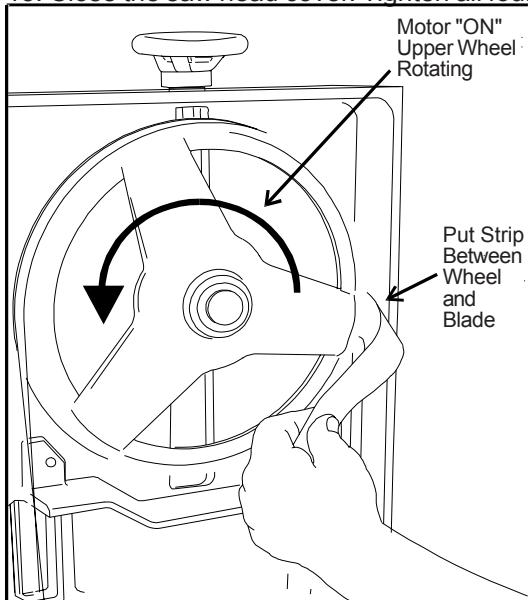


Figure 11: Checking blade-to-wheel clearance using paper strips

## Blade Guide Bearing Adjustment

Proper adjustment of the blade guide bearings is critical to efficient operation of the cut-off saw. The blade guide bearings are adjusted at the Factory. They

should rarely require adjustment. When adjustment is required, adjust immediately. Failure to maintain proper blade adjustment may cause serious blade damage or inaccurate cuts.

It is always better to try a new blade when cutting performance is poor. If performance remains poor after changing the blade, make the necessary adjustments.

If a new blade does not correct the problem, check the blade guides for proper spacing. For most efficient operation and maximum accuracy, provide 0.001 inch clearance between the blade and the guide bearings. The bearings will still turn freely with this clearance. If the clearance is incorrect, the blade may track off the drive wheel.

**CAUTION: CHECK THE BLADE TO MAKE SURE THE WELDED SECTION IS THE SAME THICKNESS AS THE REST OF THE BLADE. IF THE BLADE IS THICKER AT THE WELD, THE GUIDE BEARINGS MAY BE DAMAGED.**

If required, adjust the guide bearings as follows:

- The inner guide bearing is mounted on a concentric bushing and can not be adjusted.
- The outer guide bearing (closest to the operator) is mounted on an eccentric bushing and can be adjusted.
- Hold the bushing with a 3/4-inch wrench and loosen

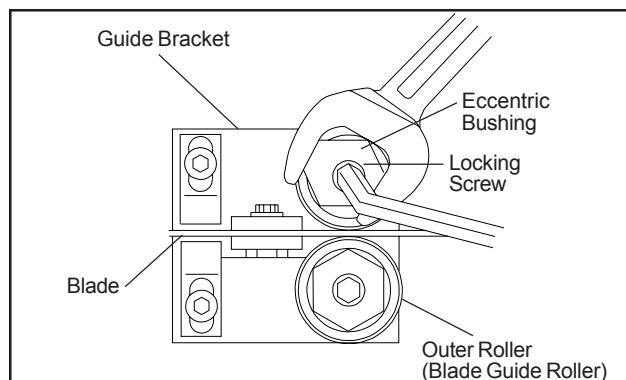


Figure 12: Adjustment of guide bearings

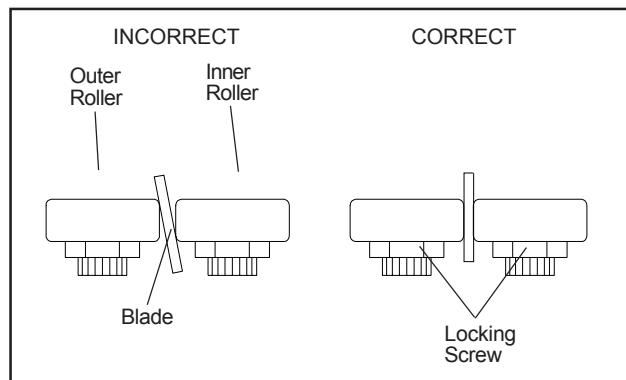


Figure 13: Blade -to-bearing orientation

the center locking screw with an Allen wrench (see figure 12).

4. Position the bearing by turning the bushing. Set the clearance at approximately 0.001 inch. (The blade should be in a vertical position between the bearings. (See figure 13.)
5. Tighten the center locking screw with an Allen wrench while holding the eccentric bushing in position with the 3/4-inch wrench.
6. Use the same procedure to adjust the other guide bearing.
7. When the adjustment is correct, the guide bearings should rotate freely with slight pressure of the finger (with the blade stopped).
8. Adjust blade-edge bearings so they just touch the back edge of the blade (see figure 19).

## Test Cutting to Verify Adjustment Accuracy

Test cuts can be used to determine whether or not you have adjusted the blade accurately. Use 2-inch round bar stock to perform these test cuts, as follows:

1. With the bar stock securely clamped in the vise, make a cut through the bar stock. (See figure 14.)
2. Mark the top of the bar stock.
3. Move the bar stock about 1/4-inch past the blade so you can begin a second cut.
4. Rotate the bar stock 180 degrees so the mark you made is now at the bottom of the cut.
5. Make a cut through the bar stock.
6. Use a micrometer to measure the thickness varia-

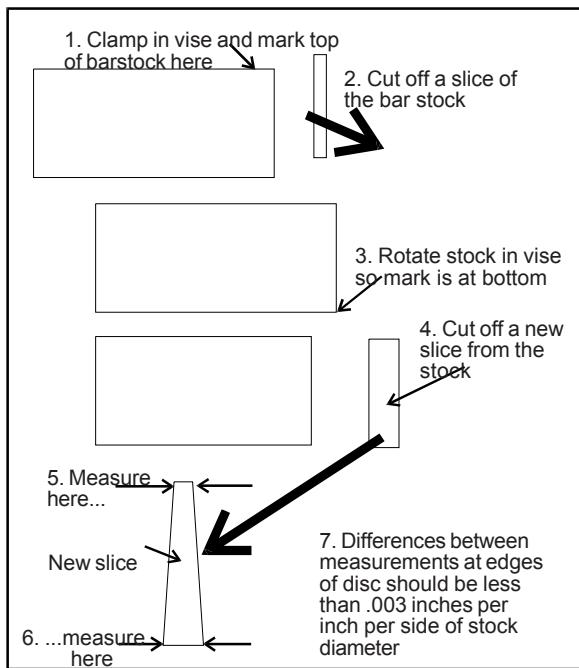


Figure 14: Cutting a test disc

tion of the disk you have cut from the bar stock. Measure at the top and bottom of the disk.

The saw blade can be considered correctly adjusted when the variation measure is no more than 0.012 inch across the face of the disk.

If you do not have a piece of 2-inch bar stock available for a test cut, use a larger diameter test piece rather than a smaller one. The maximum thickness variation on any test piece should be no more than 0.003 inch, per side, per inch of stock diameter.

## Adjustment of the Limit Switch

1. The limit switch is provided to shut off the saw motor when the workpiece is cut through.
2. To set the limit switch, loosen the jam nut on the limit switch stop (figure 15).
3. Adjust the stop as required and retighten jam nut.

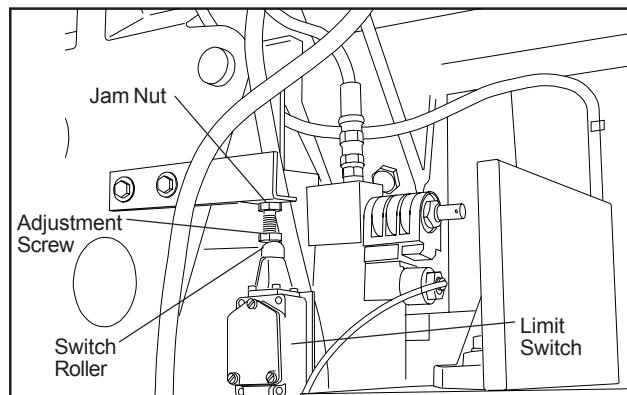


Figure 15: Limit switch adjustment

## Maintenance Cleaning

1. Clean off any preservative on machine surfaces.
2. After cleaning, coat the machined surfaces of the cut-off saw with a medium consistency machine oil. Repeat the oil coating process at least every six months.
3. Clean up accumulated saw cuttings after use. Make sure the lead screw is kept free of saw cuttings and other material that would cause damage.
4. Clean the chip sludge from the coolant tank. The frequency should be determined by how often the saw is used.

## Lubrication

Lubricate the following components at the specified frequencies and using the lubricants as defined:

1. Ball bearings: the bearings are lubricated and sealed—periodic lubrication is not required.
2. Blade guide bearing: the bearings are lubricated and sealed—lubrication is not required. Inspect periodically.
3. Idler wheel bushing: the bearings are lubricated and sealed—lubrication is not required. Inspect periodically.
4. Lead screw bearing housing: lubricate with light oil monthly (see exploded figure, page 20).
5. Lead screw: lubricate with light oil monthly (see exploded figure, page 20).
6. Hydraulic cylinder pivot: lubricate with light oil every 6 months (see exploded figure, page 20).
7. Blade tension screw: lubricate with grease every 6 months (see exploded figure, page 24).
8. Blade brush bearing: lubricate with light oil monthly (see exploded figure, page 24).
9. Gear box: check oil once a year.
10. Change coolant on a frequency appropriate to the type of coolant being used. Oil based coolants can sour. Refer to the coolant supplier's instructions for change frequency.
11. Coolant tank: clean every 6 months or as required.

## Changing Blades

**WARNING:** SHUT OFF ALL ELECTRICAL POWER TO THE MACHINE.

1. Loosen four knobs securing the blade cover. Lift the cover and swing it backward.
2. Remove the blade guard mounted to the left blade guide support.

**WARNING:** ALWAYS WEAR LEATHER GLOVES WHEN HANDLING SAW BLADE TO AVOID INJURY FROM THE SAW TEETH.

3. Turn the blade tensioning hand wheel clockwise to relieve tension on the blade. Loosen the blade enough to remove the blade from the idler and drive wheels. Remove the blade from between the blade guides.
4. Install the new blade between the blade guide bearings and the carbide blade guides. Install the blade over the drive and idler wheels.
5. Turn the blade tensioning hand wheel counterclockwise to tighten the blade. Tighten the blade until the blade tension indicator reads 2000 pounds.
6. Operate the saw at low speed and observe the tracking of the blade. If tracking needs to be adjusted, refer to **Blade Tracking Adjustment**.
7. Adjust the bearings on the upper edge of the blade until they just contact the blade (see figure 19).

8. Check the guide bearings and the carbide guides to make sure they are just contacting the sides of the blade.
9. Install the left blade guard making sure there is ample clearance with the blade.
10. Make a test cut to make sure the blade tracks properly during operation. Adjust tracking as required (see **Blade Tracking Adjustment**).

## Changing the Drive Belt

1. Disconnect the electrical power source from the cut-off saw to prevent any possibility of accidental motor start-up.
2. Set the arm at the full horizontal position.
3. Remove the knob on the drive belt cover. Remove the drive belt cover to expose the V-belt and pulleys.
4. Remove two screws, nuts, and washers from back of saw head support. Push on the motor support bracket to pivot the motor upward to loosen the tension on the belt.
5. Remove the worn belt.
6. Put the replacement belt in the pulleys. Allow the motor to pivot downward.
7. Install the two screws, nuts, and washers in back of saw head support and through the motor support bracket.
8. Install the drive belt cover. Install and tighten the knob on the drive belt cover.

## Replacing the Drive Motor

1. Disconnect the motor from all electrical power. Unplug the motor if it is plugged into a socket. Shut off the power to the branch and remove the connection to the junction box if the motor is hard wired to the branch.
2. Remove the drive belt from the drive motor pulley (see **Changing the Drive Belt**).
3. Remove motor pulley.
4. Open the motor junction box and disconnect the power cord wires from their terminals.
5. Remove the nuts, washers and bolts that secure the motor to the mounting plate.
6. Installation of a new motor is a reversal of the above steps.

## Adjusting the Counterbalance Spring

The counterbalance spring is located at the right, rear of the saw head. The counterbalance spring is

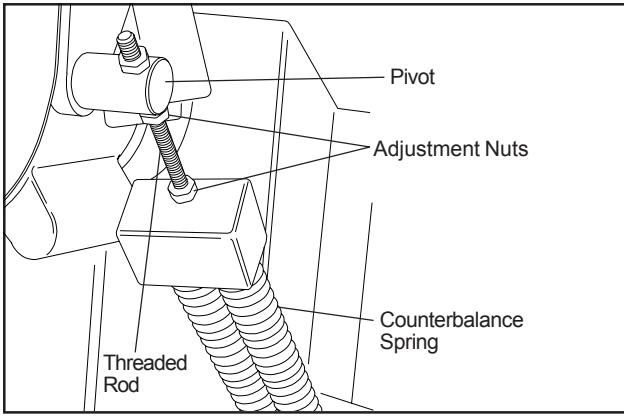


Figure 16: Counterbalance spring adjustment

used to adjust the amount of down force the saw head puts on the workpiece when the feed rate control valve is fully open.

1. Raise the saw arm to its full upright position and lock it in position.
2. To adjust the tension on the spring, loosen the two nuts on the threaded rod of the spring pivot post. Adjust the tension as required.
3. Tighten the two nuts against the pivot post.
4. The saw can now be returned to service.

## Replacing the Drive Wheel

1. Remove the blade (see **Changing Blades**).
2. Remove the screw, spring washer, and washer from the speed reducer shaft.
3. Pull the wheel from the speed reducer shaft. Remove the drive key from the speed reducer shaft.
4. Inspection: Examine drive edge and shoulder of the wheel for damage. Replace the wheel if damaged.
5. Install the key in the keyway in the speed reducer shaft. Align the keyway in the wheel with the key in the speed reducer shaft. Reinstall the wheel on the speed reducer shaft.
6. Install the screw, spring washer and washer in the end of the speed reducer shaft.
7. Install the blade (see **Changing Blades**).

## Replacing Idler Wheel or Idler Bearing

1. Remove the saw blade (see **Changing Blades**).
2. Remove the screw, spring washer, and washer from the idler shaft.
3. Remove the idler wheel. Remove the bearing from the idler wheel.
4. Inspection: Examine the drive edge and shoulder of the idler wheel for damage. Replace the wheel if

damaged.

5. Inspect bearings for damage and smooth operation, Replace if faulty.
6. Install the bearing in the idler wheel. Install the idler wheel on the idler shaft.
7. Install the screw, spring washer and washer in the idler shaft.
8. Install the blade (see **Changing blades**).

## Adjusting the Blade Guides

The cut-off saw has adjustable blade guide supports (see figure 17). The blade guide supports allow you to set the blade guides for varying widths of workpieces.

To make accurate cuts and prolong blade life, the blade guide supports should be set to just clear the workpiece to be cut.

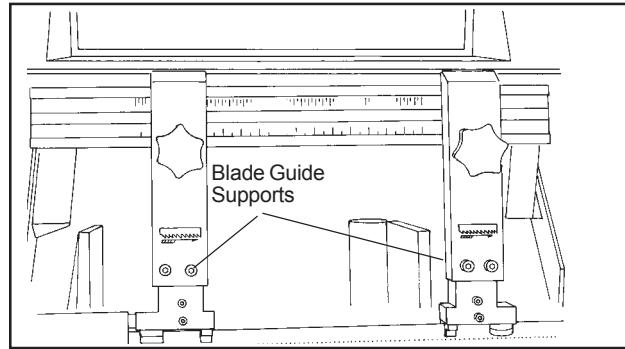


Figure 17: Blade guide supports

1. Loosen the knob on the blade guide support and slide the guide left or right as required. Repeat for the other blade guide.
2. Set the blade guide supports as required to accommodate the width/diameter of the workpiece. The blade guides should be positioned so the guides do not contact the workpiece as the saw head moves downward through the workpiece.

## Replacement of Carbide Blade Guide

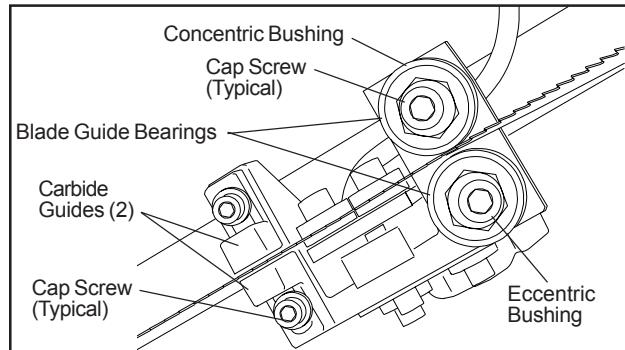


Figure 18: Carbide blade guides and guide bearings

Refer to Figure 18.1.

1. Remove the cap screw and remove the carbide guide. Discard the carbide guide.
2. Install the replacement carbide guide on the guide bearing support. Install the cap screw. Set the guide so it just contacts the side of the saw blade.
3. Using a machinist's square, check squareness of the blade to the table.

## Replacement of Guide Bearings

Referring to Figure 18, remove the cap screw from the bearing being replaced. Separate the bushing and cap screw from the bearing. Discard the bearing.

**NOTE:** There is a light press fit between the bearing and the bushing.

2. Install bushing in replacement bearing. Install cap screw through bushing and into guide support.
3. If the bearing being replaced is on an eccentric bushing, install the bearing on the operator side of the blade.
4. Turn the eccentric bushing in the guide support until the bearing contacts the blade.

## Replacement of Blade Edge Bearings

1. Remove the capscrew from the blade edge bearing being replaced and discard the bearing. Be careful not to lose the spring washer that separates the bearing from the floating block (see figure 19).
2. Insert the capscrew into the new bearing. Replace the spring washer onto the capscrew and re-install into the floating block.
3. If re-adjustment is necessary, loosen the pivot capscrew and move the floating block so that the

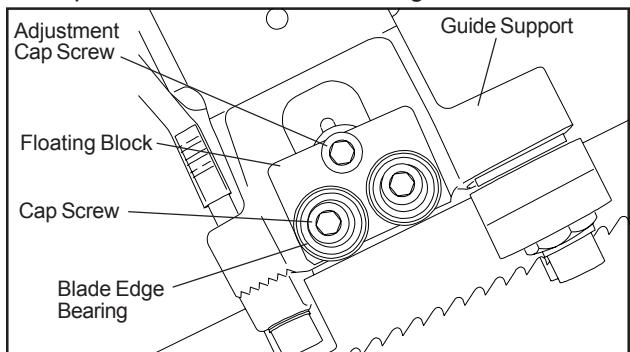


Figure 19: Blade edge bearing replacement

## Replacement of the Wire Brush

1. Loosen four knobs securing the blade cover. Lift the cover and swing it backward.
2. Remove the attaching screw, spring washer and washer. Remove and discard the brush (see figure 20).
3. Install replacement brush and secure with screw, spring washer and washer.

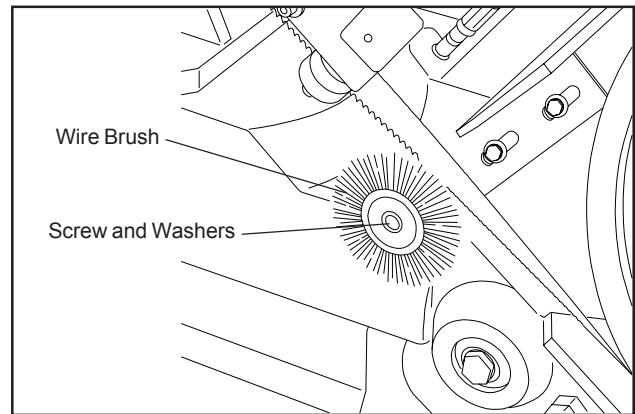


Figure 20: Wire brush

## Machine Setup

The saw delivered to you has been adjusted at the factory. A number of test pieces have been cut using the saw to verify the accuracy of cutting. Therefore, the only setup operations required before releasing the saw for service are spotting the saw and establishing the electrical connections to the motor.

## Uncrating and Spotting

Spot the saw where it makes the most sense for the operations you will probably be doing. If you are going to be doing cut-off work on very long pieces of stock, allow plenty of room for the stock, and the infeed and outfeed supports. Remove the saw from the shipping skid and discard any hold-down devices that were used to secure the saw to the skid.

4. Close the blade cover and secure with four knobs.

## Electrical

Observe the following when connecting to the power source. (The cut-off saw wiring diagrams are provided in Figures 21 and 22.)

**WARNING:** WILTON RECOMMENDS THAT ANY WIRING INVOLVING HARD WIRING OF THE SAW TO A BRANCH, OR ANY CHANGE OF VOLTAGE SUPPLIED TO THE MOTOR BE PERFORMED BY A LICENSED ELECTRICIAN.

1. Make sure the saw is disconnected from the power

source, or that the fuses have been removed or breakers tripped in the circuit in which the saw will be connected. Make sure you put a warning placard on the fuse or circuit breaker to prevent accidental electrical shock.

2. If you are installing the motor power cord into a receptacle, make sure to use the appropriate plug.
3. If you are using hard-wired connections to a junction box, connect the wires in the box, and close the box.
4. Install the fuses or reset the breaker.
5. The saw is now ready for service.

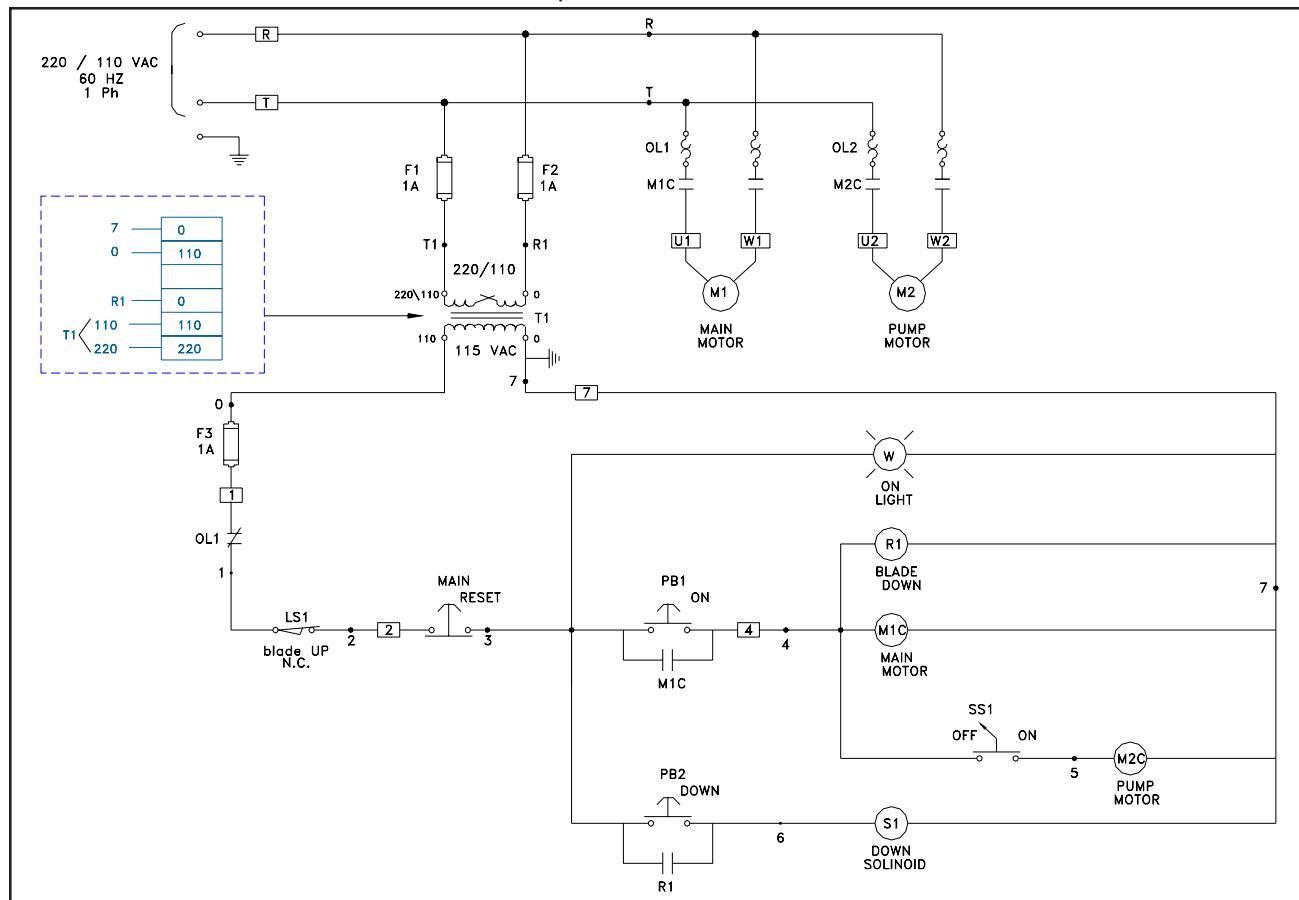


Figure 21: Model 7020 cut-off saw wiring diagram

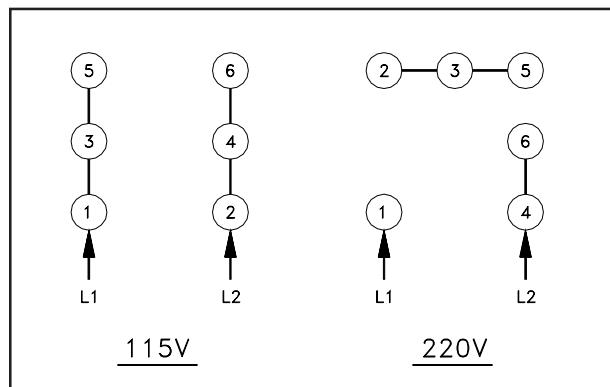


Figure 22: Connection diagram for 1ph motor

115V - To reverse motor rotation switch terminals 5 and 6.

220V - To reverse motor rotation hook terminal 6 to 1.

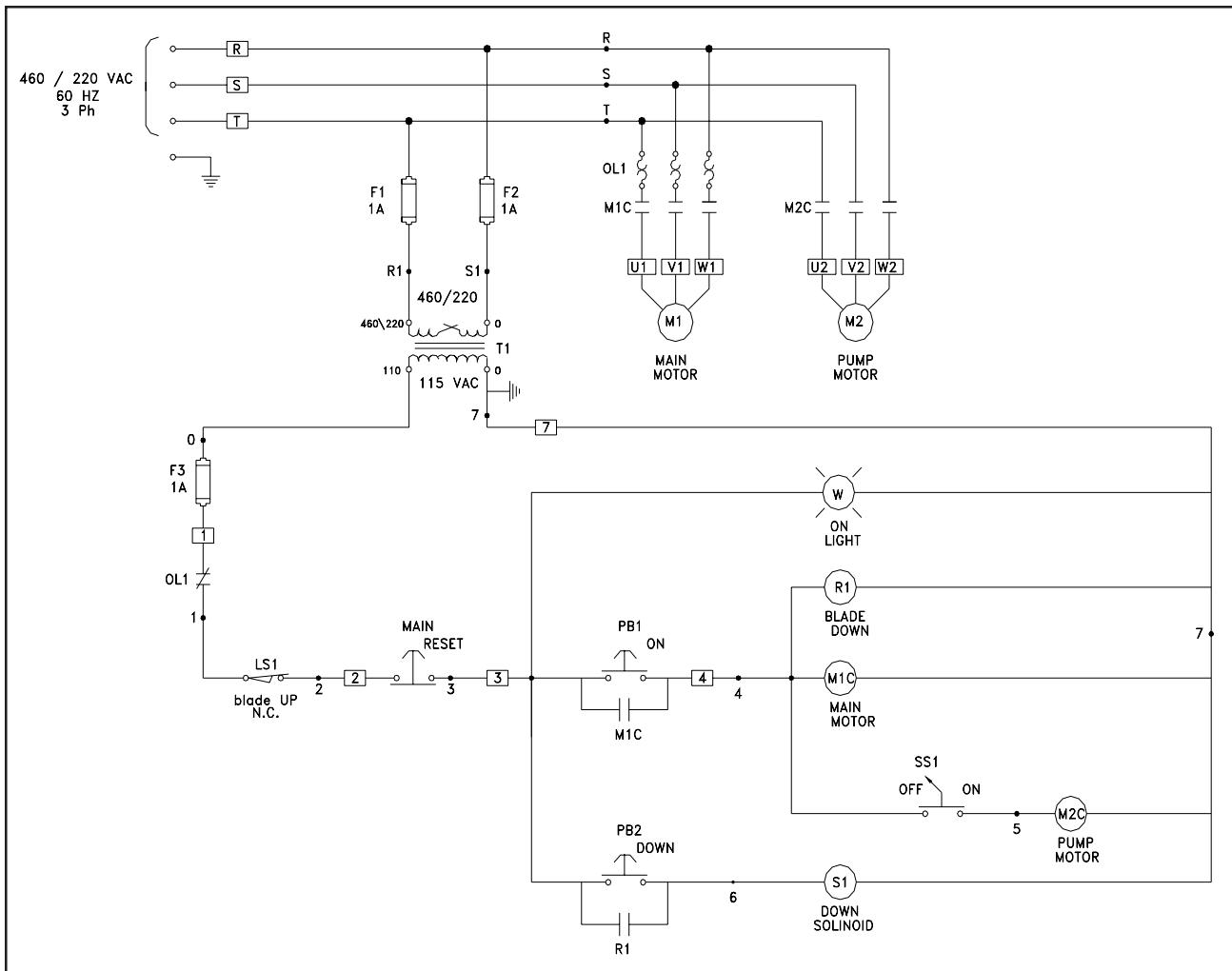


Figure 24: Model 7040 cut-off saw wiring diagram

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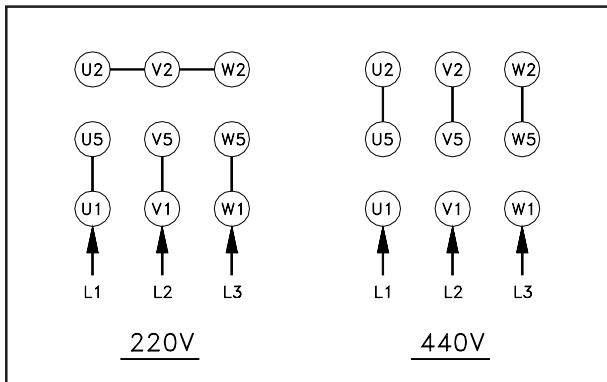


Figure 25: Connection diagram for 3ph motor

# Troubleshooting

Fault	Probable cause	Suggested remedy
Excessive blade breakage	<ol style="list-style-type: none"> <li>1. Material loose in vise.</li> <li>2. Incorrect speed or feed.</li> <li>3. Teeth too coarse for material.</li> <li>4. Incorrect blade tension.</li> <li>5. Saw blade is in contact with workpiece before the saw is started.</li> <li>6. Blade rubs on the wheel flange.</li> <li>7. Misaligned guides.</li> <li>8. Cracking at weld.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clamp work securely.</li> <li>2. Check Machinist's Handbook for speed/feed appropriate for the material being cut.</li> <li>3. Check Machinist's Handbook for recommended blade type.</li> <li>4. Adjust blade tension to the point where the blade just does not slip on the wheel.</li> <li>5. Start the motor before placing the saw on the workpiece.</li> <li>6. Adjust blade tracking.</li> <li>7. Adjust guides.</li> <li>8. Longer annealing cycle.</li> </ol>
Premature blade dulling	<ol style="list-style-type: none"> <li>1. Blade teeth too coarse.</li> <li>2. Blade speed too high.</li> <li>3. Inadequate feed pressure.</li> <li>4. Hard spots in workpiece or scale on/in workpiece.</li> <li>5. Work hardening of material (especially stainless steel).</li> <li>6. Insufficient blade tension.</li> <li>7. Operating saw without pressure on workpiece.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a finer tooth blade.</li> <li>2. Try a lower blade speed.</li> <li>3. Decrease spring tension.</li> <li>4. Increase feed pressure (hard spots). Reduce speed, increase feed pressure (scale).</li> <li>5. Increase feed pressure by reducing spring tension.</li> <li>6. Increase tension to proper level.</li> <li>7. Do not run blade at idle in/on material.</li> </ol>
Bad cuts (out-of-square)	<ol style="list-style-type: none"> <li>1. Workpiece not square with blade.</li> <li>2. Feed pressure too fast.</li> <li>3. Guide bearings not adjusted properly.</li> <li>4. Inadequate blade tension.</li> <li>5. Span between the two blade guides too wide.</li> <li>6. Dull blade.</li> <li>7. Incorrect blade speed.</li> <li>8. Blade guide assembly is loose.</li> <li>9. Blade guide bearing assembly loose.</li> <li>10. Blade track too far away from wheel flanges.</li> <li>11. Guide bearing worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust vise so it is square with the blade. (Always clamp work tightly in vise.)</li> <li>2. Decrease pressure.</li> <li>3. Adjust guide bearing clearance to 0.001 inch (0.002 inch maximum).</li> <li>4. Gradually increase blade tension.</li> <li>5. Move blade guide bar closer to work.</li> <li>6. Replace blade.</li> <li>7. Check blade speed (see Figure 3).</li> <li>8. Tighten blade guide assembly.</li> <li>9. Tighten blade guide bearing assembly.</li> <li>10. Adjust blade tracking.</li> <li>11. Replace worn bearing.</li> </ol>
Bad cuts (rough)	<ol style="list-style-type: none"> <li>1. Blade speed too high for feed pressure.</li> <li>2. Blade is too coarse.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce blade speed and feed pressure.</li> <li>2. Replace with finer blade.</li> </ol>

# Troubleshooting (Continued)

Blade is twisting	1. Blade is binding in the cut. 2. Blade tension too high.	1. Decrease feed pressure. 2. Decrease tension on blade
Unusual wear on side/back of blade	1. Blade guides worn 2. Blade guide bearings not adjusted. 3. Blade guide bearing bracket is loose.	1. Replace blade guides. 2. Adjust blade guide bearings. 3. Tighten blade guide bearing bracket.
Teeth missing/ripped from blade	1. Blade tooth pitch too coarse for workpiece. 2. Feed too slow; feed too fast. 3. Workpiece vibrating. 4. Gullets loading up with chips.	1. Use blade with finer tooth pitch. 2. Increase feed pressure and/or blade speed. 3. Clamp workpiece securely. 4a. Use blade with a coarse tooth pitch—reduce feed pressure. 4b. Brush blade to remove chips.
Motor running too hot	1. Blade tension too high. 2. Drive belt tension too high. 3. Blade too coarse for workpiece (especially with tubular stock). 4. Blade too fine for workpiece (especially with heavier, soft material). 5. Speed reducer gears require lubrication.	1. Reduce tension on blade. 2. Reduce tension on drive belt. 3. Use blade with fine tooth pitch. 4. Use blade with coarse tooth pitch. 5. Check speed reducer.
No coolant flow	1. Pump motor is burned out. 2. Screen/filter on pump is clogged. 3. Impeller is loose. 4. Coolant level too low.	1. Replace pump. 2. Clean screen/filter. 3. Tighten impeller. 4. Add coolant to reservoir.
Excessive speed reducer noise/vibration	1. V-belt is too tight. 2. Counteracting spring not tensioned properly.	1. Reset V-belt tension. 2. Increase spring tension.

## Replacement Parts

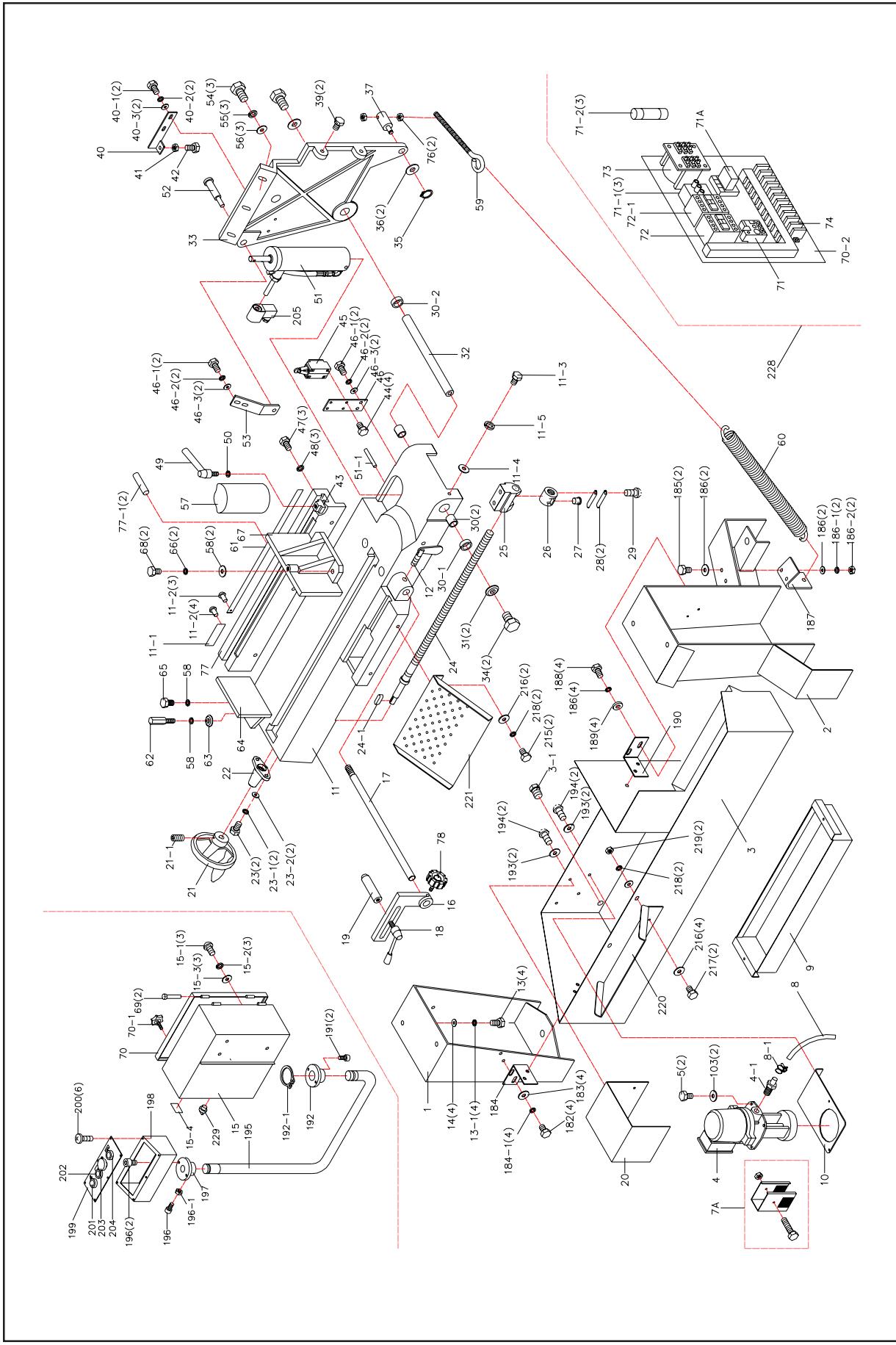
This section provides exploded view illustrations that show the replacement parts for the 10-inch x 16-inch Cut-Off Saw. Also provided are parts listings that provide part number and description. The item numbers shown on the illustration relate to the item number in the facing parts listing.

Order replacement parts from:

**WMH Tool Group**  
**2420 Vantage Drive**  
**Elgin, IL 601237**  
**TEL: 1-888-594-5866**  
**FAX: 1-800-626-9676**  
[www.wmhtoolgroup.com](http://www.wmhtoolgroup.com)

Identify the replacement part by the part number shown in the parts listing. Be sure to include the model number and serial number of your machine when ordering replacement parts to assure that you will receive the correct part.

## Exploded View - Base



## Parts List - Base

ITEM NO.	PART NO.	DESCRIPTION	QTY	ITEM NO.	PART NO.	DESCRIPTION	QTY
1	5712251	Foot, Left	1	21-1	5519494	Set Screw (5/16"x1/2")	1
2	5712261	Foot, Right	1	22	5712481	Lead Screw Bracket	1
3	5712271	Coolant Reservoir	1	23	5712491	Screw (5/16" x 1/4")	2
3-1	5519485	Stopper (PT 3/8")	1	23-1	5713931	Spring Washer (5/16")	2
4		Coolant Pump	1	23-2	5713131	Washer (5/16")	2
	5712281	115/220, 1-Phase		24	5712511	Vise Lead Screw	1
	5712921A	220/440, 3-Phase		24-1	5519710	Key (5x5x20mm)	1
4-1	5519486	Adapter (PT 3/8")	1	24A	5514806	Collar with Pin	1
5	5712291	Pan Head Screw (1/4" x 5/8 ")	2	25	5712521	Lead Screw Bracket	1
6	5712311	Spring Washer (1/4")	2	26	5712531	Acme Nut	1
7	5712321	Nut (1/4")	2	27	5712541	Button	1
7A	5512101	Filter Screen w/Screw	1	28	5712551	Retainer	2
8	5712331	Hose (5/16")	1	29	5712561	Screw (M5 x 8)	1
8-1	5519487	Hose Clamp	6	30	5712571	Needle Bearing (CB3020)	2
9	5712341	Chip Pan	1	30-1	5519495	Bush (4mm)	1
10	5712351	Pump Bracket	1	30-2	5519496	Bush (2mm)	1
11	5712361	Work Table	1	31	5712581	Washer (1/2")	2
11-1	5519491	Label, Made in Taiwan	1	32	5712591	Pivot Shaft	1
11-2	5519492	Rivet(2mm)	14	33	5712611	Pivot Bracket	1
11-3	5519489	Hex Cap Screw (M <sup>^</sup> x 10)	1	34	5712621	Screw (1/2" x 3/4")	2
11-4	5519490	Washer (M6)	1	35	5712631	Retaining Ring (S12)	1
11-5	5519491	Spring Washer (M6)	1	36	5712641	Washer (1/2")	2
12	5712371	Screw (1/4" x 7/8")	1	37	5712651	Spring Pull Pivot	1
13	5712381	Hex Cap Screw (1/2" x 1")	4	38	5712661	Bushing	1
13-1	5712391	Spring Washer (1/2")	4	39	5712671	Screw (5/8" x 1")	2
14	5712641	Washer (1/2")	4	40	5712681	Regulating Seat	1
15	5712411	Electrical Control Box	1	40-1	5519489	Cap Hex Screw (5/16" x 5/8")	2
15-1	5519488	Hex Cap Screw (5/16" x 3/4")	3	40-2	5519493	Spring Washer (5/16")	2
15-2	5513931	Spring Washer (5/16")	3	40-3	5713131	Washer (5/16")	2
15-3	5713131	Washer (5/16")	3	41	5712691	Nut (3/8")	1
15-4	5519501	Label, Pump Switch	1	42	5712711	Screw (3/8"x 1")	1
16	5712421	Work Stop Bracket	1	43	5712721	Protractor Stop Block	1
17	5712431	Work Stop Rod	1	44	5712731	Screw (M6 x 12)	4
18	5712441	Locking Screw	1	45	5712741	Limit Switch	1
19	5712451	Screw (1/2")	1	* For Saw Serial No. 704018 and Earlier			
20	5712461	Pump Cover	1	** For Saw Serial No. 704018 and Later			
21	5712471	Hand Wheel Assembly	1	***Spring Changed since Dec. '96			

## Parts List - Base

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ITEM NO.	PART NO.	DESCRIPTION	QTY
46-1	5519498	Hex Cap Screw (5/15" x 5/8")	4
46-2	5519493	Spring Washer (5/16")	4
46-3	TS-5713131	Washer (5/16")	4
47	5712761	Screw (3/8" x 1")	3
48	5712771	Spring Washer (3/8")	3
49	5712781	Locking Handle	1
50	5712791	Washer (1/2")	1
51	5511502*	Hydraulic Cylinder Assembly (2-1/2 In.)	1
	5712811**	Hydraulic Cylinder Assembly (3-In.)	1
51-1	5519497	Cylinder Pin, Bottom	1
52	5712821	Cylinder Pin, Top	1
53	5712831	Hydraulic Mounting Plate	1
54	5712841	Screw (3/8" x 2)	3
55	5712851	Spring Washer (3/8")	3
56	5712861	Washer (3/8")	3
57	5712871	Protractor Vise Block	1
58	5712881	Spring Washer (1/2")	2
59	5712891	Spring Pull Rod	1
60***	5712911	Spring (30mm) - Old	2
	5519498	Spring (32mm) - New	1
61	5712921	Angle Scale	1
62	5712931	Screw (1/2" x 1-1/2")	1
63	5712941	Washer (1/2")	2
64	5712951	Vise Jaw, Left	1
65	5712961	Screw (1/2" x 1-1/2")	1
66	5712971	Washer (1/2")	1
67	5712981	Vise Jaw, Right	1
68	5712991	Screw (1/2" x 1-3/4")	2
69	5713011	Pin	2
70	5713021	Electrical Cabinet Door	1
70-1	5519499	Knob	1
70-2	5519500	Plane	1

ITEM NO.	PART NO.	DESCRIPTION	QTY
71		Overload	1
	5507542	Model 7020 (115V, 1-ph)	
	5713031	Model 7020 (220V, 1-ph)	
	5512660	Model 7040 (220V, 3-ph)	
	5712661	Model 7040 (440V, 3-ph)	
71-1	5519502	Fuse Bracket	3
71-2	5519503	Fuse (1A)	3
71A	5508409	Relay (115/220 NO)	1
72	5713041	Magnetic Switch (115/220 1-Phase)	1
	5713001	Magnetic Switch (220/440 3-Phase)	1
73	5713051	Transformer	1
74	5713061	Terminal Strip	1
75	5713071	Spring, Protective Casing	1
76	5713081	Nut (3/8")	3
77	5713091	Protractor Seat	1
77-1	5519505	Pin (5 x 32mm)	2
78	5713111	Knob	1
182	5713121	Screw (5/16"x 1/2")	2
183	5713131	Washer (5/16")	2
184	5713141	Bracket	1
184-1	5713931	Spring Washer (5/16")	4
185	5713151	Screw (3/8" x 1")	2
186	5713161	Washer (3/8")	2
187	5713171	Spring Bracket	1
186-1	5713481	Spring Washer (3/8")	2
186-2	5519507	Nut (3/8")	2
188	5713181	Screw (5/16" x 1/2")	2
189	5713191	Washer (5/16")	2
190	5713211	Locking Wheel	1
191	5713221	Screw (1/4" x 3/4")	2
192	5713231	Swivel Bushing	1
192-1	5519509	C-Ring	1
193	5713241	Spring Washer (1/4")	2
194	5713251	Screw (1/4" x 3/8")	2

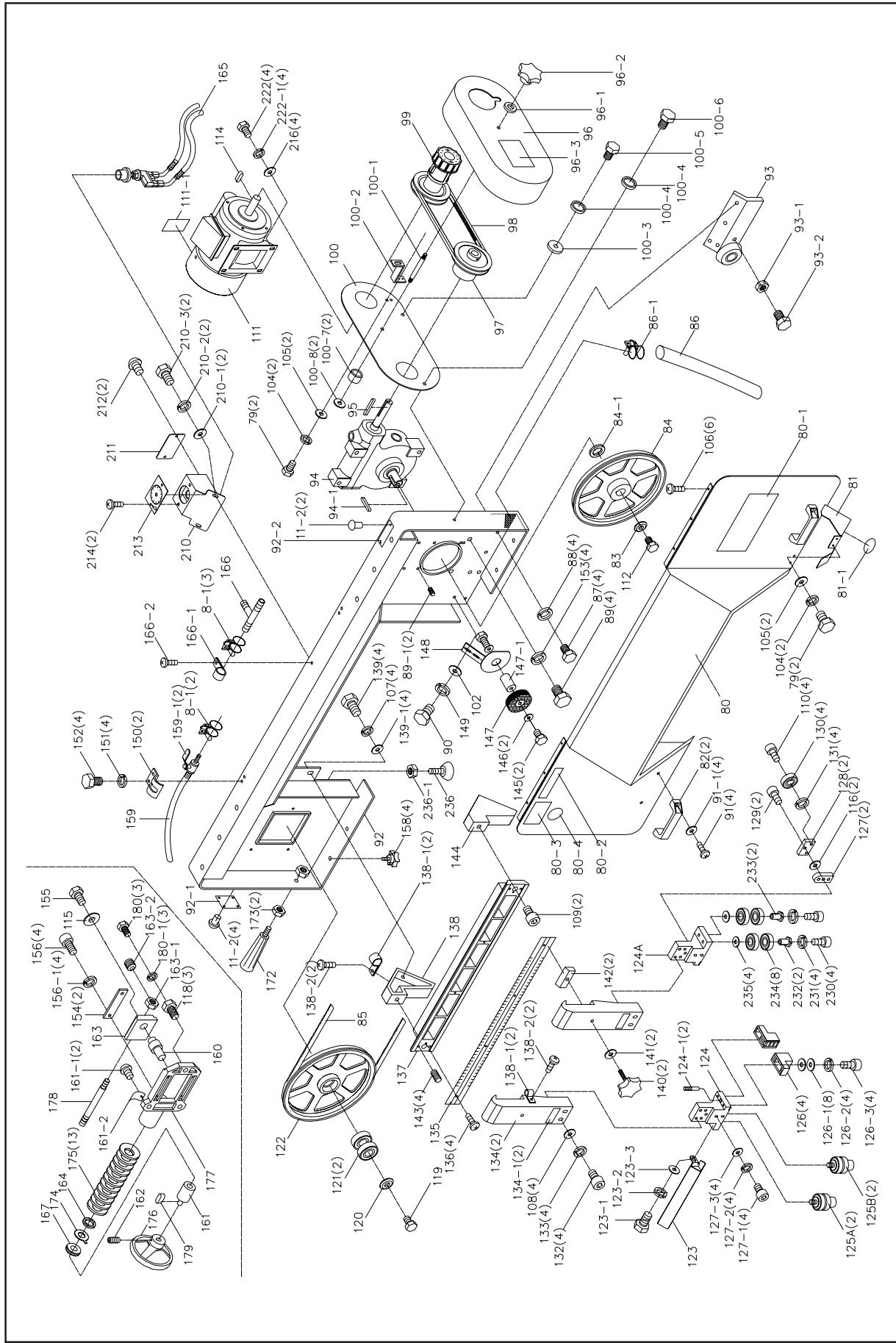
Piston/Seal Kit 5512787

E-M valve & coil 5713371A

Not shown in exploded view.

ITEM NO.	PART NO.	DESCRIPTION	QTY
195	5713261	Control Column	1
196	5713271	Screw (1/4" x 3/4")	2
196-1	5519510	Nut (1/4")	2
197	5713281	Swivel Bushing	1
198	5713291	Control Box	1
199	5713311	Control Panel	1
200	5713321	Screw (3/16" x 1/4")	6
201	5713331	Electric Lamp	1
202	5713341	Start Switch	1
203	5713351	Stop Switch	1
204	5713361	Down Switch	1
205	5713371	E-M valve complete	1
215	5712301	Hex Hd Screw	2
216	5712401	Flat Washer	16
217	5712501	Hex Hd Screw	2
218	5712601	Lock Washer	8
219	5712701	Hex Nut	8
220	5712801	Shelf	1
221	5712901	Drain Shelf	1
228	5514613	Complete Electrical Panel 3-Phase	1
	5514616	1-Phase	
229	5516855	Coolant Pump Switch	1

## Exploded View - Head



# Parts List - Head

ITEM NO.	PART NO.	DESCRIPTION	QTY
79	5713381	Screw (1/4" x 3/8")	1
80	5713391	Blade Wheel Cover	1
80-1	5518109	Label, Wilton Logo	10
80-2	5519511	Label, Blade Size	1
80-3	5519512	Label, Warning	1
80-4	5519513	Label, Glasses	1
81	5713411	Wire Brush Guard	1
81-1	5519514	Label, Saw	1
82	5713421	Handle	2
83	5713431	Washer (1/2")	1
84	5713831	Drive Wheel10	
84-1	5712641	Washer (1/2")	1
85		Blade, Bi-Metal	1
	5674011	4/6 Vari Tooth	
	5674021	6/10 Vari Tooth	
86	5713461	Hose	1
86-1	5519515	Hose Clamp	1
87	5713471	Screw (3/8" x 1-1/4")	4
88	5713481	Spring Washer (3/8")	4
89	5713491	Screw (1/2" x 1-1/4")	4
89-1	5519671	Setscrew (3/8" x 1/2")	2
90	5713511	Screw (5/16" x 1/2")	2
91	5713521	Screw (1/4" x 5/8")	2
91-1	5713661	Washer (1/4")	4
92	5713531	Blade Wheel Box, Right	1
92-1	5519672	Label, Tension	1
92-2	5519673	Label, ID	1
93	5713541	Support Bracket Seat	1
93-1	5519674	Nut (1/2")	1
93-2	5519490	Hex Cap Screw (1/2"x 2")	1
94	5713551	Gear Box Assembly	1
94-1	5519675	Key (7x7x40mm)	1
95	5513734	Key (7 mm)	1
96	5713571	Pulley Cover	1
96-1	5519676	Knob	1
96-3	5519677	Label, Speed Chart	1
97	5713581	Gear Box Pulley	1
98	5713591	Belt	1
99	5713611	Motor Pulley	1
100	5713621	Base Plate	1
100-1	5519678	Rod	1
100-2	5519679	Bracket	1
100-3	5713131	Washer (5/16")	1

ITEM NO.	PART NO.	DESCRIPTION	QTY
100-4	5713931	Spring Washer (5/16")	2
100-5	5519680	Hex Cap Screw (5/16" x 1-1/4")	1
100-6	5519506	Hex Cap Screw (5/16" x 1/2")	1
100-7	5519681	Bushing (9mm)	2
100-8	5713131	Washer (5/16")	2
102	5713631	Washer (5/16")	2
103	5713661	Washer (1/4")	1
104	5713651	Spring Washer (1/4")	2
105	5713661	Washer (1/4")	2
106	5713671	Screw (1/4" x 3/8")	6
107	5628371	Spring Washer (1/2")	4
108	5713691	Washer (5/16")	4
109	5713711	Screw (3/8" x 1")	2
110	5713721	Screw (5/16" x 5/8")	4
111	5713731	Motor (1.5 HP 115/220 1-Phase)	1
	5713732	Motor (2 HP 220/440 3-Phase)	1
111-1		Label, Motor	1
	5519682	(1.5HP, 115/230 3-Phase)	
	5519683	(2HP, 220/440 3-Phase)	
112	5713741	Bolt (1/2" x 3/4")	1
114	5513733	Key (7 mm)	1
115	5713761	Washer (1/2")	1
116	5713771	Washer (5/16")	2
118	5713781	Screw (M16 x 30)	3
119	5713791	Screw (1/2" x 3/4")	1
120	5713811	Washer (1/2")	1
121	9100321	Bearing (6205Z)	2
122	5713441	Idler Wheel	1
123	5713841	Blade Guard	1
123-1	5519506	Hex Cap screw (5/16" x 1/2")	1
123-2	5713931	Spring Washer (5/16")	1
123-3	5713131	Washer (5/16")	1
124	5713851	Left B	
124A	5713851A	Right Blade Guide Brkt.	2
124-1	5519684	Tube	2
125A	5717138	Eccentric Shaft Assy.	2
125B	5517142	Center Shaft Assy.	2

ITEM NO.	PART NO.	DESCRIPTION	QTY
126	5713871	Blade Guide Tung. Carb.	2
126-1	5713661	Washer (1/4")	8
126-2	5713651	Spring Washer (1/4")	4
126-3	5519508	Hex Socket Cap Screw (1/4" x 1")	4
127	5713881	Elevating Block	2
127-1	5519508	Hex Socket Cap Screw (1/4" x 1")	4
127-2	5713651	Spring Washer (1/4")	4
127-3	5713661	Washer (1/4")	4
128	5713891	Active Block	2
129	5713911	Screw (1/4" x 5/16")	2
130	5632831	Bearing (608ZZ)	4
131	5713931	Spring Washer (5/16")	4
132	5713941	Screw (5/16" x 1-3/4")	4
133	5713951	Spring Washer (5/16")	4
134	5713961	Guide Support	2
134-1	5518423	Label, Blace Orientation	2
135	5713971	Angle Scale	1
136	5713981	Screw (M5 x 0.8)	4
137	5713991	Guide Support Mount	1
138	5714011	Guide Support Bracket (left)	1
138-1	5519685	Rubber Clamp	4
138-2	5519686	Pan Head screw (M5 x 8)	4
139	5714021	Screw (1/2" x 1")	4
139-1	5713761	Washer (1/2")	4
140	5714031	Knob	2
141	5714041	Washer (3/8")	2
142	5714051	Locking Block	2
143	5714061	Screw (5/16" x 1/2")	4
144	5714071	Guide Support Bracket (Right)	1
145	5714161	Bolt (1/4" x 1/2")	1
146	5713661	Spring Washer (1/4")	1
147	5714111	Wire Brush	1
147-1	5519687	Shaft	1
148	5714121	Steel Brush Seat	1
149	5713931	Spring Washer (5/16")	2
150	5714141	Hose Clamp	2
151	5713651	Spring Washer (1/4")	4
152	5714161	Screw (1/4"x 1/2")	4
153	5628371	Spring Washer (1/2")	4
154	5714181	Gib	2
155	5714191	Screw (1/2" x 3/4")	1
156	5714211	Screw (M8 x 20)	4

ITEM NO.	PART NO.	DESCRIPTION	QTY
156-1	5519688	Spring Washer (MB)	4
158	5714221	Knob	4
159	5714231	Flexible Nozzle	1
159-1	5519689	Flow Valve	2
160	5714241	Blade Wheel Shaft	1
161	5714251	Threaded Nut	1
161-1	5519690	Pan Head Screw (M6x12)	2
161-2	5519691	Tension Scale	1
162	5714261	Screw (5/16" x 1/2")	1
163	5714271	Slide Bracket	1
163-1	5519692	Nut	1
163-2	5519693	Set Screw	1
164	5714281	Washer	1
165	5714291	Relief Valve	1
166	5714311	Connection Head	1
166-1	5519694	Rubber Clamp	1
166-2	5519695	Pan Head screw (M5x8)	1
167	5507790	Bearing (51104NJK)	1
172	5714331	Bow Handle	1
173	5711091	Nut (1/2")	2
174	5714351	Washer	1
175	5714361	Special Spring Washer	13
176	5714371	Hand Wheel	1
177	5714381	Slide Bracket	1
178	5714391	Tension Shaft	1
179	5714411	Key (5 mm)	1
180	5714421	Screw (3/8" x 2-1/2")	3
180-1	5713481	Spring Washer (3/8")	3
210	5714431	Oil Pressure Seat	1
210-1	5713131	Washer (5/16")	2
210-2	5713931	Spring Washer (5/16")	2
210-3	5519489	Hex Cap Screw (5/16" x 5/8")	2
211	5714441	Cover Cap	1
212	5714451	Screw (5/16" x 5/8")	2
213	5714461	Control Panel	1
214	5714471	Screw (1/4" x 3/8")	2
216	5516850	Washer	6
218	5516851	Spring Washer	6
219	5516852	Nut, Hex	6
222	5516849	Screw	4
222-1	5713931	Spring Washer (5/16")	4
223	5713101	Motor Pivot Bracket	1
224	5713201	Motor Pivot Bracket Shaft	1
	5713301	Snap Ring	2

ITEM NO.	PART NO.	DESCRIPTION	QTY
226	5713401	Screw	2
227	5713501	Motor Bracket - Fixed	1
230	5713941	Screw (5/16 x 1-3/4)	4
231	5712881	Spring Washer (1/2")	4
232	5517141	Eccentric Shaft Bushing	2
233	5517140	Center Shaft Bushing	2
234	5713861	Ball Bearing (6201ZZ)	8
235	5713761	Washer (1/2")	4
236	5519696	Arm Stop	1
236-1	5711091	Nut (1/2")	1

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